



# Sensitivity Analysis

## – Scenarios Presented Today

- Scenario 1 – Eliminating Pump-Back Operation

***Presenter: Curtis Creel***

*Chief, Project Operations Planning Branch, SWP Operations Control Office*

- Scenario 13 – Levels of SWP Demand

***Presenter: Art Hinojosa, Jr.***

*Chief, Operations Compliance & Studies Section, SWP Operations Control Office*

**Break**

- Scenario 17 – Downstream Extent of Temperature Control

***Presenter: Curtis Creel***

*Chief, Project Operations Planning Branch, SWP Operations Control Office*



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# Sensitivity Analysis

## – Scenario 1: Eliminating Pump-Back Operations

- **Objective:**

Understand the effect of pump-back operations on water temperatures in Thermalito Afterbay and the Feather River

- **Model used:** HYDROPS, WQRRS



# Sensitivity Analysis

## – Scenario 1: Eliminating Pump-Back Operations

- **Status:** Ongoing

	HYDROPS	DWR Review	WQRRS	Operation Changes
<i>First Iteration</i>				
1922 - 1936	Completed	Completed	Completed	Identified
1937 - 1952	Completed	Ongoing	–	–
1953 - 1967	Completed	Ongoing	–	–
1968 - 1982	Completed	Ongoing	–	–
1983 - 1994	Completed	Ongoing	–	–
<i>Second Iteration</i>				
	–	–	–	–





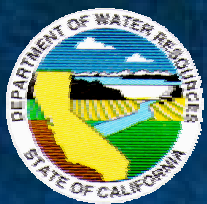
# Sensitivity Analysis

## – Scenario 1: Eliminating Pump-Back Operations

- Assumptions:

- All assumptions for the Benchmark Study except for pump-back capacity of Hyatt and Thermalito Afterbay power plants
- Pump-back capacity is set to zero

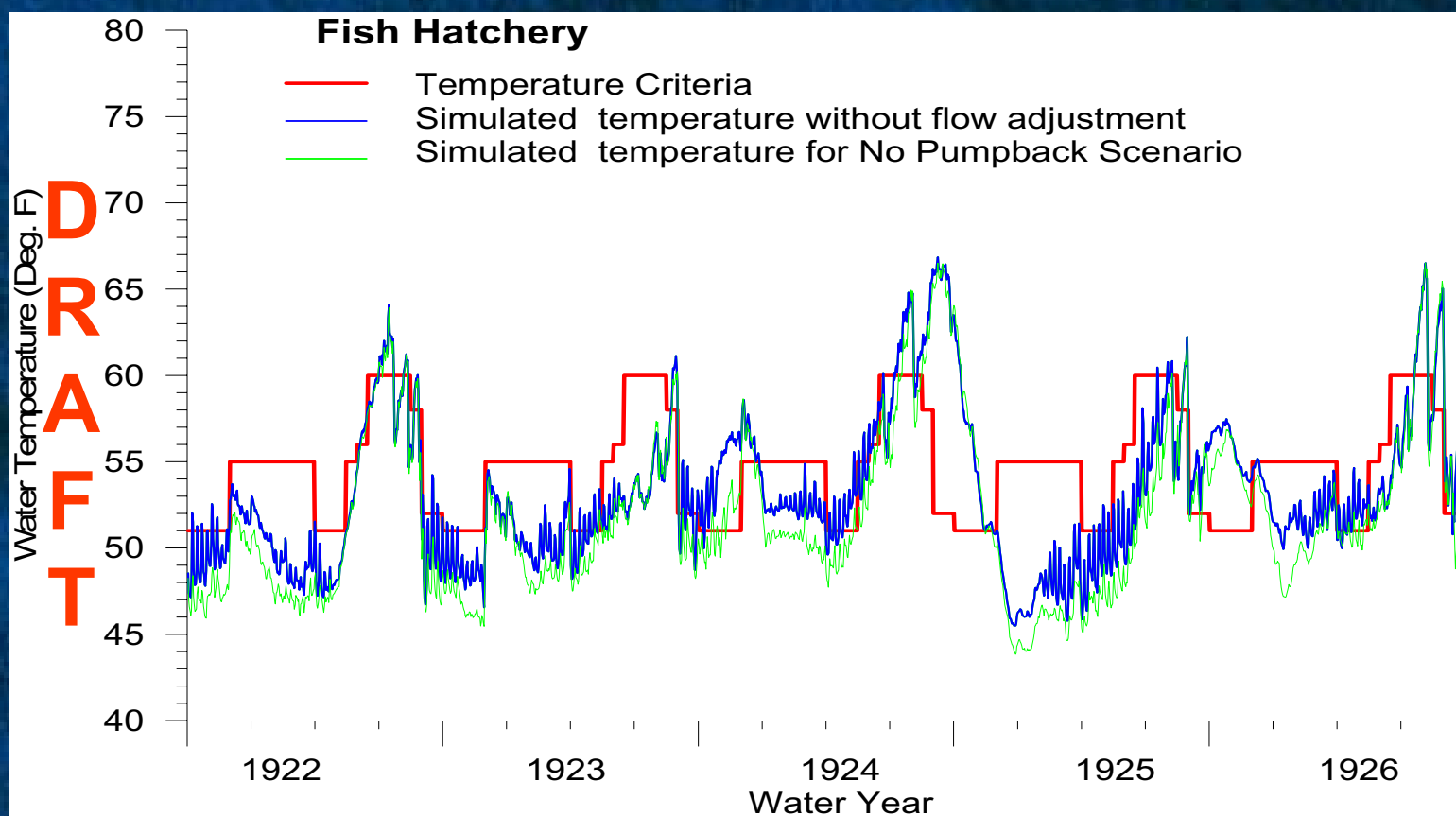
***Simulated Feather River flows below Thermalito Afterbay outlet were not affected***



# Sensitivity Analysis

## – Scenario 1: Eliminating Pump-Back Operations

### • Preliminary Results Summary

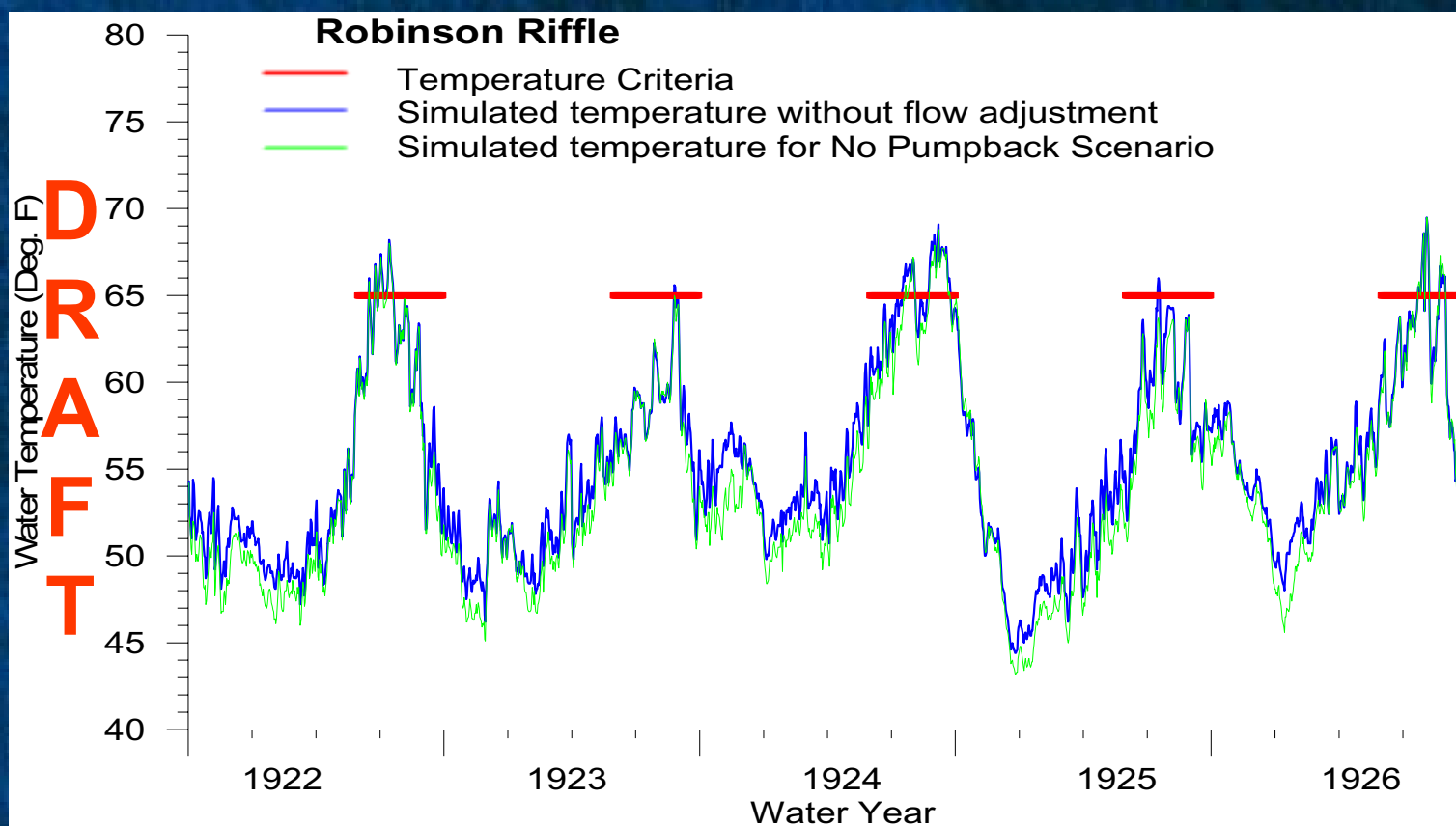




# Sensitivity Analysis

## – Scenario 1: Eliminating Pump-Back Operations

### • Preliminary Results Summary (cont'd)

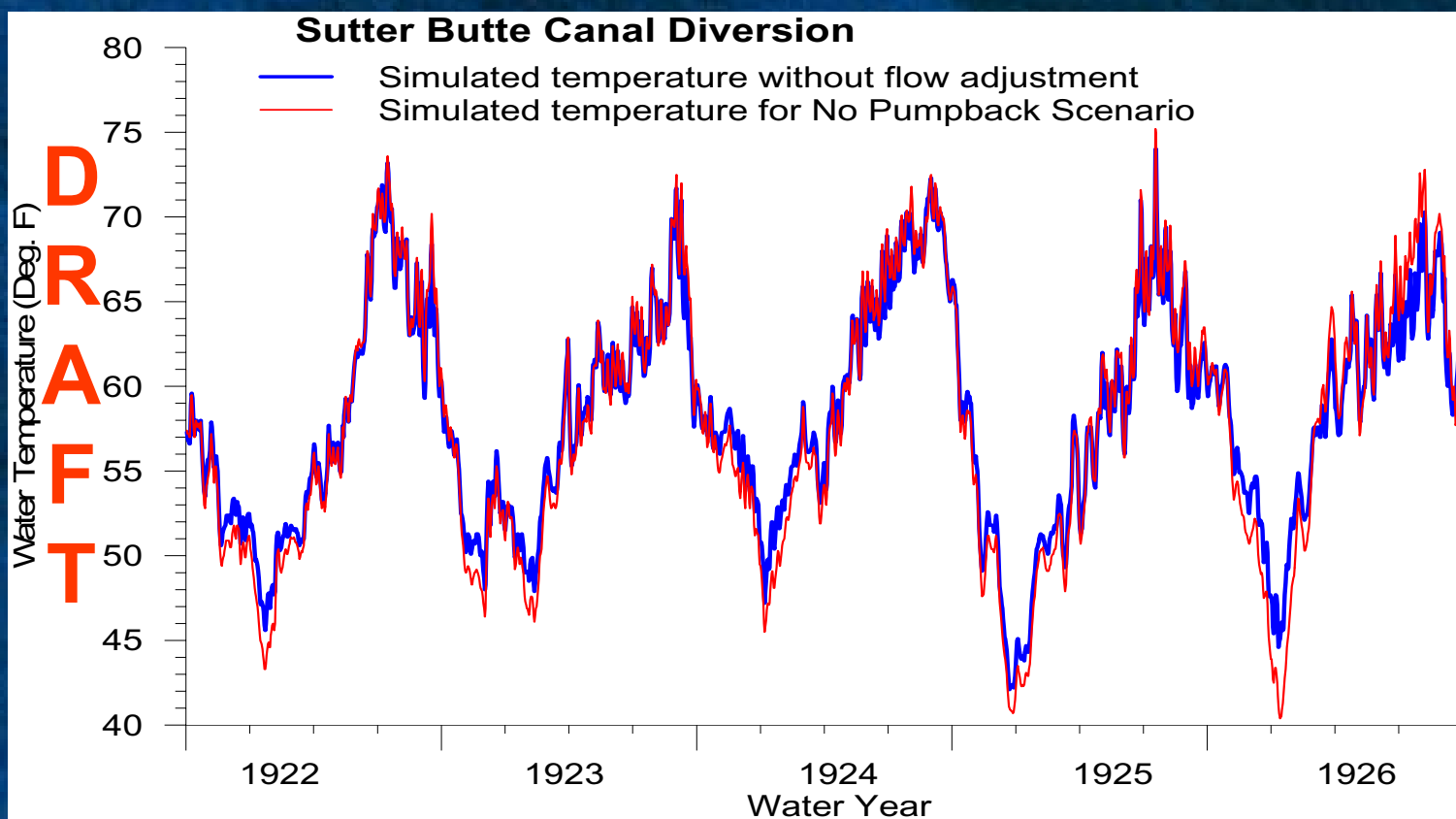




# Sensitivity Analysis

## – Scenario 1: Eliminating Pump-Back Operations

- Preliminary Results Summary (cont'd)







# Sensitivity Analysis

- Scenario 1: Eliminating Pump-Back Operations
- Preliminary Findings
  - Lower water temperature at Robinsons Riffle
  - Higher water temperature in Thermalito Afterbay
  - Expected benefits will be reduced when compared to Benchmark with temperature control actions



# Sensitivity Analysis

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- Scenario 13 – Levels of SWP Demand

*Presenter: Art Hinojosa, Jr.*

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- Scenario 17 – Downstream Extent of Temperature Control

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# Sensitivity Analysis

## – Scenario 13: Levels of SWP Demand

- Objective

Understand the sensitivity of Lake Oroville water levels to various demands from the SWP contractors

- Model used: CALSIM II

- Status: Completed



# Sensitivity Analysis

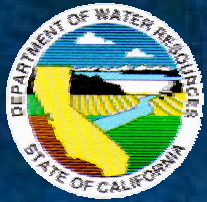
## – Scenario 13: Levels of SWP Demand

- Assumptions

- All assumptions for the 2001 Level of Development Benchmark Study were used, except demands of the SWP
- Levels of SWP Demand
  - Fixed at 0, 1, 2, 3, and 4.2 MAF (full Table A allotment)
  - The Benchmark study assumes a variable demand close to 4.2 MAF with adjustments for regional wetness

***Effects on water users (including SWP contractors) and other resources were not evaluated***





# Sensitivity Analysis

## – Scenario 13: Levels of SWP Demand

- Findings

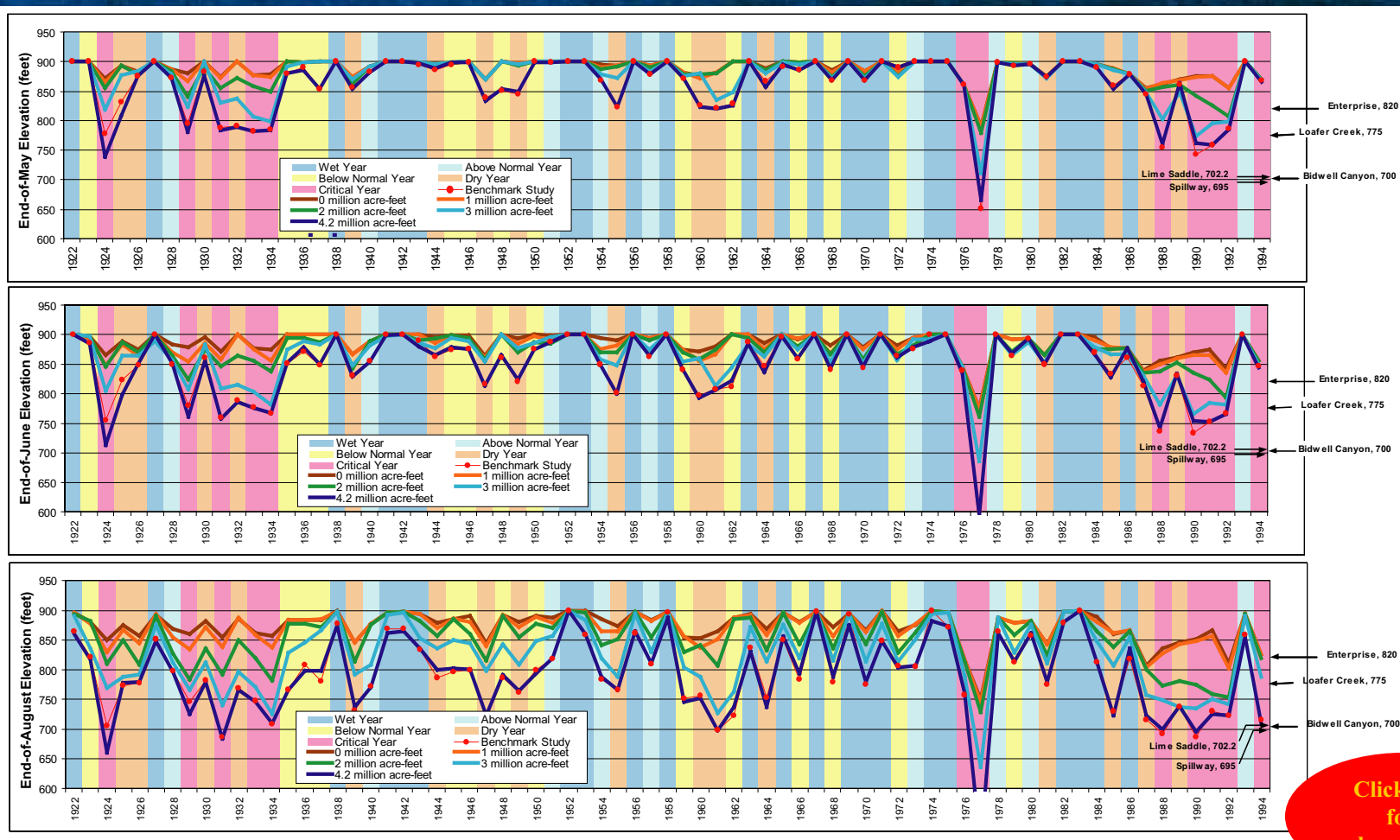
- Greater demands on the SWP generally results in lower water levels in Lake Oroville
- Elevation of Lake Oroville is more sensitive to level of SWP demand in drought periods
- With a full SWP Table A allotment,
  - There would be a 75% chance that all boat ramps are usable at the end of June
  - Simulated elevations of Lake Oroville are similar to those of the Benchmark Study





# Sensitivity Analysis

## – Scenario 13: Levels of SWP Demand



[Click here  
for  
enlarged plots](#)



# Sensitivity Analysis

## – Scenario 13: Levels of SWP Demand

